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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,543	08/07/2006	Tsuyoshi Isomura	2006_1282A	8272

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EXAMINER

DUBASKY, GIGIL

ART UNIT	PAPER NUMBER
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2421

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,543	Applicant(s) ISOMURA ET AL.	
	Examiner GIGI L. DUBASKY	Art Unit 2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-22 and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-22 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/06/2009 has been entered.

Response to Arguments

Claims 15-22 and 24-28 are pending.

2. Applicant's arguments in the Remarks filed on 11/06/2009 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-17, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura et al (US 6108379) in view of Nishida (US 6519007) of the record.

Regarding claim 15, Shikakura discloses a broadcast receiving apparatus comprising:

a receiver (elements 201 and 202 in Figures 1 and 7) which receives a first TV broadcast signal and a second TV broadcast signal (Col 1 lines 9-13 and 15-17 for in the TV digital broadcast environment; Col 4 lines 5-11 and Col 8 lines 16-22 for receiving encoded low-quality image signal and encoded residual image signal);

a first decoder (elements 204 and 206 in Figure 1 and Figure 7) which decodes the first TV broadcast signal received by said receiver (Col 4 lines 18-22, 30-34, Col 8 lines 27-32 and 39-43 for decoding the received residual image signal);

a second decoder (element 203 and 205 in Figure 1 and Figure 7) which decodes the second TV broadcast signal received by said receiver (Col 4 lines 11-15, 25-27, Col 8 lines 22-25 and 33-39 for decoding the received low-quality image signal);

a detector (element 211 and 212 in Figure 1 and Figure 7) which detects a decoding error part of said first TV broadcast signal decoded by the first decoder (Col 4 lines 51-55, and Col 5 lines 48-67 for detecting errors from received signals); and

a synthesizer (element 215 in Figure 7) which generates a composite signal (Col 8 lines 44-51 and Col 9 lines 8-13 for synthesizing the low-quality image signal and the residual image signal);

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wherein the first TV broadcast signal and the second TV broadcast signal are each a digital TV broadcast signal (Col 1 lines 9-13 and 15-17 for TV digital broadcast environment; and Col 3 lines 23-25 and see Figure 1 for "signal 101" is digitized by "A/D converter 102" before being encoded by encoders 103 and 106. Therefore, the signals coming out from these two encoders are digital TV broadcast signals; and Col 8 lines 16-22 for decoding encoded signal into a digital signal at the receiver), and the first TV broadcast signal has a content identical to a content of the second TV broadcast signal (see Figure 1, the output signal of "A/D converter 102" is split and input into two encoders 103 and 106; and see Figure 7, Col 7 lines 47-61 for the digitized image signal is input into the band dividing circuits (HL) 111 and (HH) 112 to obtain the low frequency and high frequency components respectively. In other words, the two input signals of the two encoders are the same and have identical content), and provides video of a quality higher than a quality of the second TV broadcast signal (Col 3 lines 23-51, Col 4 lines 26-37 and Col 8 lines 53-58).

Shikakura discloses that the decoded image signal is of the lower hierarchic image quality, allowing enough recognition of the content even though the image quality is low (Col 3 lines 34-40). It means that Shikakura's low-quality image signal including video data for reproducing an image with low quality. Shikakura also discloses that reproducing a higher quality image by adding the residual image signal to the low-quality image signal, but is silent about the residual image signal by itself is capable of reproducing an image. Shikakura also does not explicitly disclose a composite signal is obtained by replacing the decoding error part of the first TV broadcast signal detected

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by the detector with a corresponding part of the second TV broadcast signal decoded by said second decoder.

Nishida discloses a video data transmitting method from a transmitter to a receiver by dividing a screenful of video data into a plurality of first rectangular areas, generating the first video data corresponding to each of first rectangular area, grouping first rectangular areas into a plurality of second rectangular areas, generating the second video data corresponding to each of second rectangular area, combining first and second video data as a unit and transmitting to the receiver (Col 2 lines 7-27, Col 3 line 61 through Col 4 line 50; and see Figures 3A and 4A). The video data received at the receiving section (Col 5 lines 12-20) contains one unit of two types of video data (one unit of second video data V2 and four units of first video data V11-V14 - see Figure 5A) each having different resolution (Col 5 lines 27-37) such as first video data having further higher resolution than second video data (Col 6 lines 16-19 and 31-37). And of course, both first and second video data enables to reproduce image. Nishida's system also enables one to determine whether there is a data loss in the first video data V1 (V11-V14) and decide the first is inputted in case of without any data loss and the second is inputted in case of a portion of the first is missing (Col 4 line 66 through Col 5 line 11 and see Figure 2B). Nishida also discloses a screenful of video data is generated at receiving side by replacing detected error part of the first video data with a corresponding part of the second video data (see Figure 6B and Col 6 lines 8-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Shikakura's system with the teaching of

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Nishida, so to provide a system that enables to maintain reproducing image at high resolution and to reduce the loss of data to the greatest extent possible.

Regarding claim 16, Shikakura in view of Nishida discloses the apparatus as discussed in the rejection of claim 15. The combined system further discloses at least one of said first decoder and said second decoder decodes the TV broadcast signal with use of the composite signal generated by said synthesizer (taught by Shikakura; see elements 203, 205, 204, 206 and 215 in Figure 7; the inputs of “Band synthesization 215” are from both decoders).

Regarding claim 17, Shikakura in view of Nishida discloses the apparatus as discussed in the rejection of claim 15. The combined system further discloses said first decoder and said detector constitute a decoding and detecting unit which decodes the first TV broadcast signal and detects the decoding error part of the first TV broadcast signal during decoding of the first TV broadcast signal to output a detection result to said synthesizer (taught by Shikakura; see elements 204, 212 and 215 in Figure 7; element 204 as first decoder, element 212 as detector that detects error of signal from element 204 and outputs a result to element 215 as synthesizer; also taught by Nishida; Col 4 line 66 through Col 5 line 11 and see Figure 2B for detecting error in first video data; and see Figure 6B and Col 6 lines 8-15 for replacing detected error part of the first video data with a corresponding part of the second video data).

Regarding claim 24, Shikakura in view of Nishida discloses the apparatus as discussed in the rejection of claim 15. The combined system further discloses the second TV broadcast signal is a broadcast signal for use in broadcasting under rainfall for the first TV broadcast signal (taught by Shikakura; Col 1 lines 21-26, Col 4 lines 43-48, Col 5 lines 33-67 and Col 6 lines 16-46; also taught by Nishida; Figure 6B and Col 6 lines 8-15 for replacing detected error part of the first video data with a corresponding part of the second video data).

Regarding claim 25, Shikakura in view of Nishida discloses the apparatus as discussed in the rejection of claim 15. The combined system further discloses the first TV broadcast signal and the second TV broadcast signal are each a digital TV broadcast signal (taught by Shikakura; Col 3 lines 23-24 and Col 4 lines 1-3, 8-11), and the first TV broadcast signal has a content identical to a content of the second TV broadcast signal, and is a signal modulated by a modulation system having a viewable receiving C/N ratio higher than a viewable receiving C/N ratio of a modulation system applied to the second TV broadcast signal (taught by Shikakura; see curve B and curve C in Figure 8; Col 3 lines 23-51, Col 4 lines 55-67, Col 6 lines 9-16 and Col 7 lines 26-39).

Regarding claim 26 and claim 28, all the limitations of claims 26 and 28 are analyzed corresponding to all functionalities of claim 15. Claims 26 and 28 are rejected under the same ground as claim 15.

Regarding claim 27, claim 27 is directed toward embodying the method of claim 26 (detecting means for detecting a decoding error... and synthesizing means for generating a composite signal...) in “computer-readable storage medium”. So, all functionalities of claim 27 are rejected under the same rationale as claim 26. It would have been obvious to embody the procedures of Shikakura in view of Nishida discussed with respect to claim 26 in a “computer-readable storage medium” in order that the instructions could be automatically performed by a processor.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura et al (US 6108379) in view of Nishida (US 6519007) of the record and further in view of Hatabu et al (2005/0117643).

Regarding claim 18, Shikakura in view of Nishida discloses the apparatus as discussed in the rejection of claim 15. The combined system further discloses the synthesizer generates a composite signal obtained by replacing the decoding error part of the first TV broadcast signal detected by detector with a corresponding part of the second TV broadcast signal (taught by Shikakura; element 215 in Figure 7; Col 8 lines 44-51 and Col 9 lines 8-13).

The combined system does not explicitly disclose a first storage device which stores the first TV broadcast signal, and a second storage device which stores the second TV broadcast signal.

Hatabu discloses the limitations of a first storage device which stores the first TV broadcast signal (element 211-1 in Figure 3), and a second storage device which stores the second TV broadcast signal (element 211-2 in Figure 3).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the receiver of Shikakura in view of Nishida with the teaching of Hatabu about a plurality of buffers, so the reception side is not required to decode the plurality of received encoded data for the purpose of decoding the same frame or the same image area, making it possible to reduce an increase in the amount of calculations needed by the reception side (taught by Hatabu; ¶ [0040], lines 6-10).

6. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura et al (US 6108379) in view of Nishida (US 6519007) of the record and further in view of Karaoguz et al (US 2005/0066089).

Regarding claim 19, Shikakura in view of Nishida discloses all the limitations of the apparatus as discussed in the rejection of claim 15. The combined system further discloses the first decoder and the second decoder constitute a single decoder (taught by Shikakura; see Figure 1 or Figure 4 or Figure 9; "decoding apparatus 200" includes "elements 203 and 205" as the first decoder and "elements 204 and 206" as the second decoder).

The combined system does not disclose a timesharing unit which timeshares the first TV broadcast signal and the second TV broadcast signal received by the receiver

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for outputting, and alternately decodes the first TV broadcast signal and the second TV broadcast signal timeshared by the timesharing unit.

Karaoguz discloses a timesharing unit which timeshares the first TV broadcast signal and the second TV broadcast signal received by the receiver for outputting, and alternately decodes the first TV broadcast signal and the second TV broadcast signal timeshared by the timesharing unit ("decoder core 242" in Figure 2 includes a timeshared decoding processor; ¶ [0051]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the receiver of Shikakura in view of Nishida with the teaching of Karaoguz's decoder core module, so to reduce the space of circuitry and the cost of manufacture.

Regarding claim 20, Shikakura in view of Nishida and further in view of Karaoguz discloses the apparatus as discussed in the rejection of claim 19. The combined system further discloses

a first storage device which stores the composite signal outputted from the synthesizer (taught by Shikakura; element 303 in Figure 3; Col 7-32), and

a second storage device which stores the second TV broadcast signal decoded by the single decoder (taught by Shikakura; element 304 in Figure 3 or element 404 in Figure 5), wherein said synthesizer is configured to store the second TV broadcast signal decoded by the single decoder in said first storage if said detector has not detected the decoding error part of the first TV broadcast signal, and is configured to read out the

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part of the second TV broadcast signal corresponding to the decoding error part from said second storage device to store the readout part in said first storage device if said detector has detected the decoding error part of the first TV broadcast signal (elements 215 and 211-213 in Figure 7 have all equal functionalities as claimed limitations; Col 8 lines 63-67 and Col 9 lines 1-31; also taught by Nishida; Col 4 line 66 through Col 5 line 11 and see Figure 2B for detecting error in first video data; and see Figure 6B and Col 6 lines 8-15 for replacing detected error part of the first video data with a corresponding part of the second video data).

Regarding claim 21, Shikakura in view of Nishida and further in view of Karaoguz discloses the apparatus as discussed in the rejection of claim 20. The combined system further discloses the single decoder decodes the first TV broadcast signal with use of the composite signal stored in said first storage device if the detector has detected the decoding error part of the first TV broadcast signal (taught by Shikakura; "decoding apparatus 200" as a single decoder, "elements 211 and/or 212" as detector; Col 5 lines 7-67).

Regarding claim 22, Shikakura in view of Nishida and further in view of Karaoguz discloses the single decoder and said detector constitute a decoding and detecting unit which decodes the first TV broadcast signal corresponding to the second TV broadcast signal after decoding the second TV broadcast signal, and detects the decoding error part of the first TV broadcast signal during decoding of the first TV broadcast signal to

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output a detection result to said synthesizer (taught by Shikakura; see Figure 7; “decoding apparatus 200” as single decoder, elements 211 and/or 212 as detector, and element 215 as synthesizer; Col 8 lines 39-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GIGI L. DUBASKY whose telephone number is (571)270-5686. The examiner can normally be reached on Monday through Thursday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/John W. Miller/

Supervisory Patent Examiner, Art Unit 2421

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